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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/533,006

04/28/2005

Hideki Moriyama

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IP GROUP OF DLA PIPER US LLP
ONE LIBERTY PLACE
1650 MARKET ST, SUITE 4900
PHILADELPHIA, PA 19103

EXAMINER

LSTVOYB, GREGORY

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

03/25/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/533,006

Applicant(s)

MORIYAMA ET AL.

Examiner

GREGORY LISTVOYB

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-22, 36 and 38-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-22, 36 and 38-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/27/2008 has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 7, 10-22, 36, 38-39, 41, 42 rejected under 35 U.S.C. 102(b) as being anticipated by Harris et al (US Patent 5580950), herein Harris.

Harris discloses a polyamide, applied as an optical member in LCD displays. The structural formulas (I), (11), (111) and (IV) (Columns 5 and 6), meet the limitations of Claims 1.

Note that than r , p and q are not equal to 1, the structure of Harris's Formula (1) meets the limitations of Claim 1.

Since the above structure identical to one in the Application's Specification, it meet the requirements on Light transmittance, Young Modulus and thermal shrinkage of Claims 1, 2, 3, 10, 12- 15, 25- 28, 35-36, 38-39.

In reference to Claim 7, polyamides of Groups I and IV can be identical, since R16 and R17 define as aromatic groups.

Claims 1-3, 7 10-15, 22, 36, 38-39 rejected under 35 U.S.C. 102(b) as being anticipated by Murakami et al (US Patent 7054049), herein Murakami.

Murakami teaches a transparent optical film for LCD display that has excellent optical characteristics for realizing the uniform retardation distribution (Abstract).

Murakami discloses a polyamide structure, which meets the limitations of Claims 1, 22 (Column 13, Formula 22 and 23).

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Note that than r , p and q are not equal to 1, the structure of Murakami 's Formula (22) meets the limitations of Claim 1.

Most preferable film thickness is within the range of 5 to 150 microns (Column 20, line 50), meeting the limitations of Claims 11 and 24.

The retardation value of the film is within the range -90 nm to 75 nm, meeting the limitations of Claims 17-18.

Since the above structure identical to one in the Application's Specification, it inherently meets the requirements on Light transmittance, Young Modulus and thermal shrinkage of Claims 2, 3, 10, 12- 15, 25- 28, 36, 38- 39.

In reference to Claim 7, polyamides of Groups I and IV can be identical, since R16 and R17 define as aromatic groups.

Claims 1, 7, 9, 11-14, 20-22 rejected under 35 U.S.C. 102(b) as being anticipated by Handa et al (US Patent 6589663), herein Handa.

Handa discloses a polyamide structure, which meets the limitations of Claims 1 (see Column 3, line 65).

Regarding Claims 9-14, 17-18, 20-21 Handa discloses an aromatic polyamide film, structure of which meets the limitations of Claim 6 and 9, having Young modulus within 6000 -40000 N/mm² (6 -40 Gpa) (Column 21, Claim 5), thickness of 4-6 microns (Column 21, Table 3) and surface roughness (light retardation), within 0.5-25 (Column 21, Claim 4).

Regarding Claims 20 and 21 Handa discloses the birefringence values for a biaxially oriented film. He expresses birefringence as a Plane orientation coefficient equal to average of birefringence in Machine and Tangential directions (MD and TD). (Column 13, line 30). Planar orientation coefficient varies from 0.11 to 0.6 (Table 3 and Claim 4, Column 21). In examiner's opinion, birefringence in both directions is not equal, since the film is oriented unequally in MD and TD directions. Therefore, for Comparative example 4 (Table 3), which have planar orientation coefficient of 0.11 birefringence in TD direction is less than 0.1. Therefore, limitations of Claims 20 and 21 are met.

In reference to Claim 7, polyamides of Groups I and IV can be identical, since R16 and R17 define as aromatic groups.

Claims 1, 7- 9, 22 rejected under 35 U.S.C. 102(b) as being anticipated by Elfert et al (US Patent 4217227), herein Elfert.

Elfert discloses a copolyamide films with variety of structures, meeting the limitations of Claim 1 (see Column 6, line 30).

Regarding Claim 7, Elfert teaches copolyamide, comprising structures I and IV, whereas both components can be present at the ratio between 10 to 90 mol %, preferably 15 to 50 mol%. (Columns 2 and 3, structures I and IV, Claim 1).

Regarding Claim 8, Elfert teaches copolyamide, comprising structures II and IV, whereas both components can be present at the ratio between 10 to 90 mol %, preferably 15 to 50 mol%. (Columns 2 and 3, structures I and II, Claim 1).

Regarding Claim 9, Elfert teaches copolyamide, comprising structures III and IV, whereas both components can be present at the ratio between 10 to 90 mol %, preferably 15 to 50 mol%. (Columns 2 and 3, structures I and II, Claim 1).

Claims 1, 7, 9, 14 rejected under 35 U.S.C. 102(b) as being anticipated by Tsukuda et al (US Patent 6274220), herein Tsukuda.

Tsukuda teaches copolyamides with structure identical to one claimed in Claim 1 (see Column 6, line 20) with Young Modulus of 9.8 GPa and above (Column 4, line 20), having structures, meeting the limitations of Claims 7 and 9 (Columns 8 and 9, Example 1).

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 10-15, 22, 36, 38-39 rejected under 35 U.S.C. 102(e) as being anticipated by Yamaoka et al (US Publication 2004/0100599), herein Yamaoka.

Yamaoka teaches a method for producing a polyamide, applied as an optical member in LCD displays. Structure 22 and preferred structure 23 meet the limitations of Claims 1, 22.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 40-46 rejected under 35 U.S.C. 103(a) as being unpatentable over Harris or Tsukuda or Murakami or Yamaoka in combination with Vargo et al (US patent 6232386) herein Vargo.

Harris or Tsukuda or Murakami or Yamaoka disclose a polyamide, applied as an optical member in LCD displays (see discussion above).

Harris or Tsukuda or Murakami or Yamaoka does not disclose the use of his polyamide a part of solar batteries, optical fibers and optical waveguides.

Vargo teaches polymer composites used as an optical element in (Column 15, line 5). He discloses the use of his polymer in non-linear optical devices, which can be considered lens. The above compositions include polyamides.

Therefore, it would have been obvious to a person of ordinary skills in the art to use Harris or Tsukuda or Murakami or Yamaoka's polymer as an optical element in above applications, since their polyamide combine excellent optical properties with high Young modulus, moldability, chemical resistance and durability, thus, meeting the requirements for the above elements of various optical devices.

Response to Arguments

Applicant's arguments filed on 2/23/208 have been fully considered but they are not persuasive.

Regarding Harris, Murakami, Handa and Tsukuda, the Applicant argues that their structures are different from one claimed in Claim 1. The Examiner relies on the full disclosure of the above references. In all cases the structure I of Claim 1 is present (see discussion above). Since the structures of the above references are identical to the ones Claimed in the Claim 1 of the Application, their optical and mechanical properties are inherently the same.

Regarding Handa reference, Applicant argues that Handa requires ether (-O-) linkage. Instead, Handa discloses a list of linking groups, including SO₂ and S, which meets the limitations of Claim 1 ("where R10 is a group, containing S").

Regarding Elfert, since in the Claim 1 a polyamide material claims, Elfert meets its limitation. Since Elfert polyamide structure is identical to one of the application, it inherently meets the limitations of transparency. Considering that Structures I and IV of Claim 1 are indistinguishable (since R10 and R17 define as aromatic groups), Elfert meets the limitations of Claims 7-9.

Structure VI, cited by the Applicant, does not present in the Claims.

Regarding Vargo/Harris combination, the Applicant argues that it is not obvious to use Harris's polyamide in solar batteries, optical fibers and optical wavelengths. The Examiner disagrees. Vargo discloses a polyamide as a part of the devices above.

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Harris's polyamide exhibits excellent mechanical and optical properties and, in fact, has an application as an optical element. Therefore, it would have been obvious to an artisan to use Harris's polymer in Vargo's devices.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GREGORY LISTVOYB whose telephone number is (571)272-6105. The examiner can normally be reached on 10am-7pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rabon Sergent/
Primary Examiner, Art Unit 1796

GL

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